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The Clean Energy Biofuels Act of 2008: Promoting Advanced Biofuels in Massachusetts

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Massachusetts Department of Energy Resources
Creating A Greener Energy Future For the Commonwealth

**The First Annual TIMBR Conference
on Cellulosic Biofuels**

September 19, 2008

**University of Massachusetts,
Amherst**

**The Clean Energy
Biofuels Act of 2008**

**Promoting Advanced Biofuels in
Massachusetts**

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Drivers for Green Energy Policies

- High Oil Cost and Dependency
- Energy Security
- Economic Development
- New England at end of pipeline
- Climate Change



Clean Energy Leadership

Governor's Clean Energy Agenda

- ✓ Created nation's first combined Energy & Environment Secretariat led by Secretary Ian Bowles
- ✓ Rejoined Regional Greenhouse Gas Initiative (RGGI)
- ✓ Accelerating growth of clean energy cluster
 - Evergreen Solar
 - DOE Wind Blade Test facility
- ✓ Commonwealth Solar: 250 MW by 2017
- ✓ Leading-by-Example Executive Order 484
- ✓ Advanced Biofuels Task Force
- ✓ Supports Cape Wind
- ✓ Green Jobs Initiative



Clean Energy Legislation - 2008

- Green Communities Act
- Clean Energy Biofuels Act
- Global Warming Solutions Act
- Green Jobs Act
- Massachusetts Ocean Act



Clean Energy Biofuels Act

Presentation Outline

Rationale and Technical Background:
Advanced Biofuels Task Force

Provisions of the Act

Advanced Biofuels Task Force

- ABTF Created in November 2007 by Legislature and Governor
EEA Secretary Chair, A&F Secretariat, Legislators, Biofuels Company
- Public Hearings, Testimony, Expert Witnesses
- Final Report and Recommendations Issued in Spring 2008

See: <http://www.mass.gov/envir/biofuels/>

- Potential Economic Benefits to MA
 - Leading academic research and private enterprise
 - Mature advanced biofuels sector could contribute to MA economy by 2025 (*assumes predominant use of all available cellulosic resource is for biofuel*)
 - Replace up to 6% of petroleum
 - \$280 million to \$1 billion annually
 - 1,000 – 4,000 permanent jobs, 150 – 760 temporary jobs

ABTF – Key Findings/Recommendations

- Regulatory Recommendation
 - Low Carbon Fuel Standard: Prioritize efforts to implement a regional, technology neutral, and performance based LCFS.
 - Targeted mandates: As bridge to LCFS, implement carefully targeted mandates (percentage requirements for biofuels) that adhere to strict environmental (GHG) standards

ABTF – Key Findings/Recommendations

- Incentives
 - Exempt cellulosic ethanol from state's gasoline tax
 - Consider incentives for advanced biofuels production (e.g. production tax credits)
 - Possible fund to attract advanced biofuels R&D
- Infrastructure/Feedstock Development
 - Limited investments in ethanol/biodiesel stations
 - Analysis of measures to increase use and sale of flex fuel vehicles
 - Incentives to encourage smaller, regional bio-refineries
 - Focus on local feedstocks including forest biomass, energy crops, algae

Clean Energy Biofuels Act

Key Definitions and Provisions of the Act

- Life Cycle GHG Reduction Criteria
- Gas Tax Exemption for Cellulosic Biofuel
- Bioheat Minimum Content Requirement
- Biodiesel Minimum Content Requirement
- Low Carbon Fuel Standard
- Special Commission to Study Incentives

Clean Energy Biofuels Act

Life Cycle Greenhouse Gas Emissions Reduction Criteria for Eligible Biofuels

- Cellulosic Biofuel/Ethanol: at least 60% reduction
- Biodiesel/Distillate Fuels: at least 50% reduction
- Reduction relative to conventional fuel sold in 2005
- Biofuel GHG Emissions inclusive of direct and indirect (land use change) impacts
- Biofuel suppliers provide GHG documentation and receive certification from DOER
- Waste feedstocks may be exempt from full life-cycle analysis

Clean Energy Biofuels Act

Fuel Tax Exemption for Cellulosic Biofuel/Ethanol

- State Fuel Tax: 21 cents/gal
- Tax per gallon reduced in proportion to the percentage of the fuel content (by energy content) consisting of eligible cellulosic biofuel

Clean Energy Biofuels Act

Bioheat Minimum Content Requirements

- Applied to #2 heating fuel used in residential, commercial, and industrial heating applications
- Minimum Content Requirement Schedule
 - 2% eligible biofuel by July 1, 2010
 - 3% July 1, 2011
 - 4% July 1, 2012
 - 5% July 1, 2013
- Feasibility Study to extend requirement to #4 and #6 heating fuels

Clean Energy Biofuels Act

Biodiesel Minimum Content Requirements

- Applied to all diesel motor vehicle fuel for use in transportation
- Minimum Content Requirement Schedule
 - 2% eligible biofuel by July 1, 2010
 - 3% July 1, 2011
 - 4% July 1, 2012
 - 5% July 1, 2013

Clean Energy Biofuels Act

Bioheat/Biodiesel Minimum Content Requirements

- Delay Trigger
 - DOER may file report for delay requirements due to
 - 1) lack of supply,
 - 2) lack of blending facilities, or
 - 3) unreasonable cost
- DOER to study feasibility/benefits of employing a statewide average requirement, rather than requirement for every gallon sold
- If sufficient Low Carbon Fuel Standard is adopted by MA, then minimum content requirements will expire

Clean Energy Biofuels Act

- Low Carbon Fuel Standard: Governor and Secretary shall seek agreement amongst RGGI states to implement a LCFS for the transportation sector

- Special Commission: Will be convened to study feasibility and effectiveness of various forms of incentives to promote the development and use of advanced biofuels
 - Report results back to Legislature by March 31, 2009

Questions / Comments ??

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UMass Energy Crop Site Trials
with DOER and DAR
Switchgrass and Crambe